

REMARKS

In response to the Office Action mailed on March 26, 2008, Applicants respectfully request reconsideration. To further the prosecution of this Application, Applicants submit the following amendments and remarks discussing patentability of rejected and newly added claims. Applicants respectfully request that the application be passed to issue.

Claims 1-53 were previously pending in the subject Application. Claims 54-55 are being added by way of this amendment. No new matter was added to the application when amending or adding these claims.

Applicant are appreciative of the Examiner's review of the claims and allowance of claims 12 and 27. Applicants respectfully request the Examiner to call Applicant's representative at the number below to expedite the present application to issuance.

Summary of an Embodiment of the Invention

Prior to discussion of the pending claims, Applicants would like to briefly discuss an illustrative embodiment of the present invention. One embodiment of the present invention, in contrast to conventional approaches, is directed to a technique for authenticating devices in a network such as a Radio Frequency Identification (RFID) Network between control stations and one or more transceivers.

A transceiver receives transceiver configuration information including a network address and transceiver authentication credentials and receives an authentication request from the control station. The transceiver applies authentication processing to request information within the authentication request in conjunction with the transceiver authentication credentials to produce an

authentication response and transmits the authentication response to the control station to allow the control station to determine if the transceiver is authorized to communicate within the remote identification system.

Rejection of Claims

The Examiner has rejected claim 1 under 35 U.S.C. § 103(a) as being unpatentable over Leivo (U.S. Patent 6,782,080) in view of Reader (U.S. Patent Publication 2004/0054905). Applicants are appreciative of the Examiner's review of pending claim 1 and respectfully request further consideration.

Applicants has amended claim 1 to include the limitation of previously pending claim 52 to expedite prosecution of the claims to allowance. No new matter has been added to the claims; thus, there is no need to perform another search. Amended claim 1 reads as follows:

1. (Currently Amended) A method for authenticating operation of a transceiver with a control station within a wireless remote identification system, the method comprising:
 - receiving transceiver configuration information including a network address and transceiver authentication credentials for associating with the transceiver;
 - receiving an authentication request from a control station within the remote identification system, wherein receiving the authentication request includes receiving a first data value and a second data value from the control station;
 - producing an authentication response for authenticating the transceiver by applying authentication processing to request information in the authentication request, the authentication processing being based on use of the transceiver authentication credentials associated with the transceiver, wherein producing the authentication response includes:

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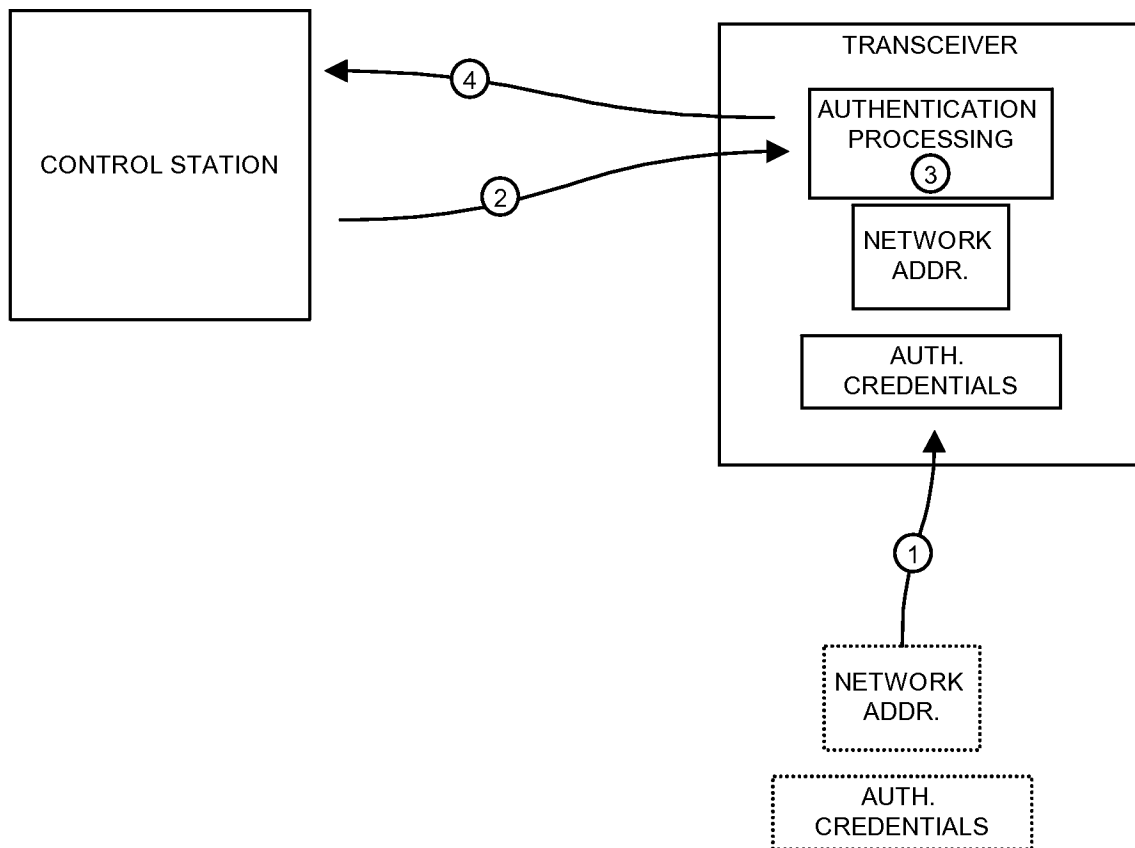
utilizing the first data value to identify an instruction of multiple instructions associated with the transceiver;

computing an authentication response value by applying the identified instruction to the second data value; and

generating the authentication response to include the authentication response value; and

transmitting the authentication response to the control station to allow the control station to determine if the transceiver is authorized to communicate within the remote identification system.

Applicant submits the following figure showing steps of the claimed invention recited by claim 1.



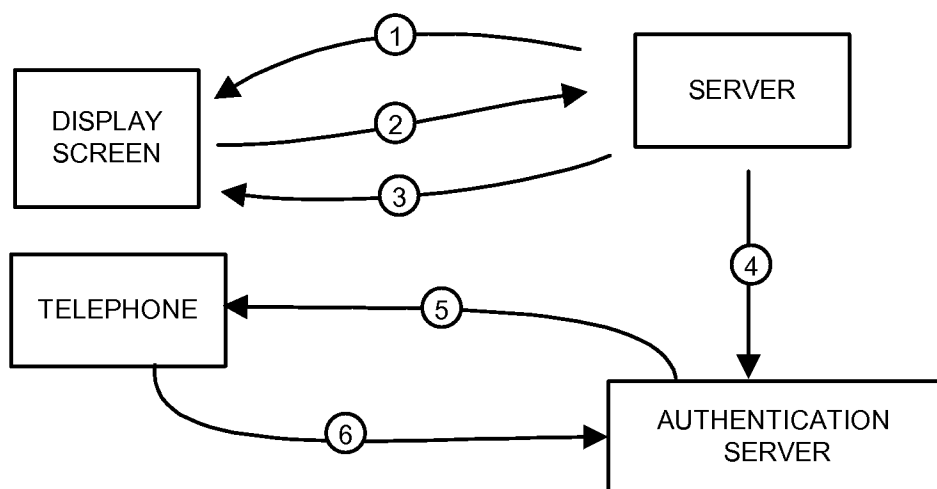
As recited in claim 1, in step 1, the claimed invention recites receiving transceiver configuration information including a network address and transceiver authentication credentials.

In step 2, the claimed invention recites receiving an authentication request from a control station within the remote identification system.

In step 3, the claimed invention recites applying authentication processing to request information within the authentication request, the authentication processing being based on use of the transceiver authentication credentials to produce an authentication response.

In step 4, the claimed invention recites transmitting the authentication response to the control station to allow the control station to determine if the transceiver is authorized to communicate within the remote identification system.

The Examiner likens the claimed invention to Leivo, which includes an authentication server as shown below.



In step 1 of Leivo, the server requests a user identification and password from the user at the display screen.

In step 2, the user provides an appropriate identification and password.

In step 3, the server provides the user with a PIN code and telephone number B.

In step 4, the server sends an authentication request to the authentication server. The authentication request includes the phone number associated with the user's telephone as well as the PIN code provided to the user in step 3.

In step 5, the authentication server initiates a call to the user's telephone.

In step 6, in response to the call from the authentication server, via the user's telephone, the user provides the PIN code to the authentication server.

The office action now asserts that that a combination of Leivo, Reader, and Hughes discloses all of the elements of the claimed invention. Applicant respectfully disagrees with this assertion because none of the cited references teaches or suggests "receiving a first data value and a second data value from the control station" and "utilizing the first data value to identify an instruction of multiple instructions associated with the transceiver; computing an authentication response value by applying the identified instruction to the second data value; and generating the authentication response to include the authentication response value" as recited by the claimed invention.

The office action cites Leivo as disclosing such limitations. Applicants respectfully disagree.

Column 8, lines 32-48 of Levio reads as follows:

An arrangement according to FIG. 3 also enables e.g. a speech-based service menu to be implemented e.g. for a blind or partially sighted user. Assume that the service device 33 is e.g. an on-line banking terminal. The user 1 inserts his or her

bank or credit card into the card reader of the on-line banking terminal. The on-line banking terminal 33 communicates with the authentication server 4 either directly or e.g. via a main computer of the bank. The user 1 is authenticated on the basis of the information read from the card and he or she may also be required to enter a predetermined PIN code through the user interface of the banking terminal. On the basis of the identification information on the card, the user 1 is identified as a user with impaired vision, who, instead of the usual user interface of the banking terminal, uses his or her mobile telephone as the user interface. When the banking terminal 33 detects this, it switches off its display. (emphasis added)

The Examiner seems to equate information read from the card and the PIN code as first data value and second data of as recited by the claimed invention. Applicants respectfully submit that this analysis does not make sense. The claimed invention recites that the request from the control station includes the first data value and the second data value. None of the things in the above passage indicate inclusion of multiple data values in a request. In fact, there is not even a mention of a request any data values.

Applicants do agree that Leivo discloses an authentication request including a first data value and a second data value. For example, Leivo at column 7, lines 6-25, reads as follows:

Assume that the GSM/GPRS telephone 21 establishes a WAP connection through the GPRS system 22 to a web server 25 connected to the Internet 24. First, the web server 25 shows the user a page for a login procedure to be performed. In other words, the user is requested to enter a user id and a password. The user enters the requested information and if the server 25 accepts this information, it shows the user of the telephone 21 a PIN code and subscriber number B which the user is to call for authentication. At the same time, the server 25 issues an

authentication request, which contains the telephone number (subscriber number A) of the telephone 21 and said PIN code, to an authentication server 26. Through a GSM network 27 (and possibly through PSTN/ISDN networks 28), the user of the telephone 21 makes a GSM call to subscriber number B given to the authentication server 26 and gives the server 29 said PIN code. The authentication server 26 verifies the response call from the user and informs the web server 25 of the confirmation, as described above. An alternative to the call made by the telephone 21 is that the authentication server 26 calls the telephone 21, in which case the user provides the PIN code. (emphasis added)

However, the claimed invention recites a specific use of the first data value and second data value not taught or suggested by Leivo. For example, the transceiver in the claimed invention utilizes the first data value to identify an instruction of multiple instructions. The transceiver then computes an authentication response based on applying the identified instruction to the second data value in the received authentication request message. The transceiver then transmits the authentication response to the controller.

The office action cites the abstract as disclosing these limitations. The abstract of Leivo reads as follows:

A method for real-time authentication or authorization of a user (1) of a secured system (3) is based on using two authentication channels and an authentication device (4) from which the secured system can request authentication or authorization (6) over a secured information network connection (6, 9). One of the authentication channels is a telephone network (8), to which the authentication device (4) is connected. A user logging into the secured system (3) over the other channel (6) of the authentication channels must make a call to the authentication device over the telephone network by his or her telephone (2). The authentication device verifies that a call has been received from a telephone number of the user's

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telephone, and issues a positive verification response to the secured system. Upon receiving a positive response, the secured system provides a requested service through the other channel. (emphasis added)

Applicants respectfully submit that there is no indication whatsoever of utilizing a first data value in the request message to identify an instruction and, thereafter apply the instructions to the second data value in the message. Instead, the cited passage only indicates the multi-channel system for authentication of a user. Instead, Leivo discloses the complex authentication technique as discussed above.

The claimed invention is useful over the cited prior art because it provides a novel way of authenticating a transceiver based on use application of credentials associated with the transceiver. For example, the control station includes multiple data values in a request message. One data value in the request message maps to an instruction at the transceiver that is to be applied to the second data value and returned to the control station (e.g., the requestor). The authentication response will be correct only if the transceiver knows which specific instruction (as specified by the first data value) should be used to apply to the second data value also received from the control station.

Based on the aforementioned remarks, Applicants submit that claim 1 is patentably distinct and advantageous over the cited prior art, and the rejection should be withdrawn. Accordingly, Applicants respectfully request allowance of claim 1 and, by virtue of dependency, allowance of corresponding dependent claims 8-11, 33-35, 36-51, and 53.

Claim 2 has been amended to include limitations of previously pending claim 1. Claim 2 recites: "wherein receiving transceiver configuration information

including a network address and transceiver authentication credentials comprises:

performing address assignment processing to receive the network address; receiving transceiver authentication credentials including receiving: i) a transceiver identification code uniquely assigned to the transceiver; and ii) a transceiver instruction set containing a set of authentication values and corresponding authentication instructions."

For example, Applicant submits that dependent claim 2 includes additional distinguishing features over the cited prior art. For example, claim 2 recites that the transceiver receives a transceiver identification code as well as a transceiver instruction set containing values and corresponding authentication instructions. Applicant respectfully traverses the rejection set forth by the Examiner because the cited language does not recite such specific details associated with authentication. The passage does recite that the telephone can receive a call from the authentication server. However, this is not equivalent to the claim limitations of "receiving transceiver authentication credentials including receiving: i) a transceiver identification code uniquely assigned to the transceiver; and ii) a transceiver instruction set containing a set of authentication values and corresponding authentication instructions." Accordingly, Applicant respectfully request allowance of claim 2.

By virtue of dependency with respect to claim 2, claims 3-7 and 12 should be in condition for allowance as well.

Claim 16 has been amended to include limitations of previously pending claim 17. For similar reasons that claim 2 is allowable, claim 16 should be in condition for allowance as well. By virtue of dependency with respect to claim 16, claims 17-26 should be in condition for allowance as well.

Claim 31 includes similar limitations as claim 1 and should be allowable for similar reasons.

Claims 13, 28, and 32 should be allowable for similar reasons as discussed above. Claims 14-15 and 29-30 depend from respective claims 13 and 28 and therefore, by virtue of dependency, also should be in condition for allowance.

Claim 36 has been amended to include limitations of previously pending claim 1. For similar reasons that claim 1 is allowable, claim 36 should be in condition for allowance as well. By virtue of dependency with respect to claim 37-39 should be in condition for allowance as well.

Note again that each of the dependent claims includes further distinguishing features over the cited prior art. Some of the distinguishing features are discussed below.

Claim 40

Applicant would like to further point out that claim 40 includes further distinguishing language over the cited prior art. For example, claim 40 depends from claim 1 and recites that the step of "applying" in claim 1 includes "based on information in the authentication request, identifying one of multiple authentication instructions maintained at the transceiver; and applying the identified one of multiple authentication instructions to i) a data value in the authentication request received from the control station and ii) an identification code associated with the transceiver to produce the authentication response."

To reject claim 40, the Examiner recites the same passage at column 7 lines 6 through 25, which reads as follows:

First, the web server 25 shows the user a page for a login procedure to be performed. In other words, the user is requested to enter a user id and a password. The user enters the requested information and if the server 25 accepts this information, it shows the user of the telephone 21 a PIN code and subscriber number B which the user is to call for authentication. At the same time, the server 25 issues an authentication request, which contains the telephone number (subscriber number A) of the telephone 21 and said PIN code, to an authentication server 26. Through a GSM network 27 (and possibly through PSTN/ISDN networks 28), the user of the telephone 21 makes a GSM call to subscriber number B given to the authentication server 26 and gives the server 29 said PIN code. The authentication server 26 verifies the response call from the user and informs the web server 25 of the confirmation, as described above. An alternative to the call made by the telephone 21 is that the authentication server 26 calls the telephone 21, in which case the user provides the PIN code.

Merely providing a PIN code via a corresponding telephone as in Leivo is not equivalent nor suggestive of a step of identifying one of multiple authentication instructions maintained at the transceiver based on information in the authentication request. Moreover, Leivo does not recite applying an identified one of multiple authentication instructions to i) a data value in the authentication request received from the control station and ii) an identification code associated with the transceiver to produce the authentication response. In fact, there is no indication in Leivo that the telephone even maintains one authentication instruction, let alone multiple authentication instructions. It logically follows that the telephone in Leivo would not apply an identified authentication instruction to a data value in the authentication request because the instructions do not exist. Unlike Leivo, this aspect of the claimed invention enables a transceiver to produce an authentication response based on an instruction specified by the authentication request as well as data in the authentication request. For the

same reason, Applicant respectfully submits that claim 42 is in condition for allowance.

Further, in addition to the limitations as discussed above, note that claim 40 also recites applying the identified instruction to an identification code associated with the transceiver to produce the authentication response. Leivo also does not recite such a limitation. For example, Leivo only recites that the telephone has a corresponding phone number used to dial the user. Neither the telephone nor user applies one of multiple identified instructions to the phone number to produce the authentication response. Accordingly, Applicant respectfully requests allowance of claims 40 and 42.

Claim 3

Applicant notes that the dependent claim 3 includes additional distinguishing features over the cited prior art. For example, claim 3 recites that receiving transceiver configuration information includes periodically receiving transceiver authentication credentials to replace the transceiver authentication credentials formerly received by the transaction. Applicant respectfully traverses the rejection set forth by the Examiner because the cited language does not recite replacement of any information whatsoever. Accordingly, Applicant respectfully request allowance of claim 3 or request the Examiner to provide proper support for such a rejection.

Claim 4

Applicant notes that the dependent claim 4 includes additional distinguishing features over the cited prior art. For example, claim 4 recites "wherein the request information within the authentication request includes:

- i) an request authentication result; and
- ii) a request data value;

wherein applying authentication processing to request information within the authentication request in conjunction with the transceiver authentication credentials to produce an authentication response comprises:

identifying an authentication instruction that matches the request authentication result; and

applying the authentication instruction that matches the request authentication result to the request data value from the authentication request to produce the authentication response."

Applicant respectfully traverses the rejection set forth by the Examiner because the cited language does not recite such specific details of associated with authentication. First, there is no indication whatsoever in Leivo that the authentication request sent from the authentication server to the telephone includes a request authentication result or a request data value. Moreover, the cited prior art does perform matching of an authentication instruction based on a request authentication result. Nor does the cited prior art involve applying the authentication instruction that matches the request authentication result to the request data value from the authentication request to produce the authentication response. Accordingly, Applicant respectfully request allowance of claim 4 or clarification of the rejection.

Claim 5

Applicant notes that the dependent claim 5 includes additional distinguishing features over the cited prior art. For example, claim 5 recites "wherein identifying an authentication instruction that matches the request authentication result comprises:

applying an authentication function to authentication values in the set of authentication values within the transceiver authentication credentials to produce corresponding transceiver authentication results; and

for each transceiver authentication result produced, determining if the transceiver authentication result matches the request authentication result for

that authentication value, and if the transceiver authentication result matches the request authentication result for that authentication value, performing the operation applying the authentication instruction to produce the authentication response." Applicant respectfully traverses the rejection set forth by the Examiner because the cited language does not recite such specific details of associated with authentication. For example, there is no indication that the Leivo discloses a telephone having a set of authentication values, especially ones to which authentication functions are applied. Moreover, Leivo does not disclose the last limitation of matching as in claim 5.

Claim 8

Contrary to the Examiner's observation, there is no discussion in the cited prior art regarding a repeated attempt to authenticate a transceiver upon each failure. Accordingly, Applicant respectfully requests allowance of claim 8.

Claim 9

Contrary to the Examiner's observation, there is no discussion in the cited prior art regarding a transceiver that receives an authentication result in a authentication request as well as a data value for use by the transceiver to apply a selected instruction. Additionally, the claim recites subsequently receiving a different authentication result and different data value from the control station. The cited prior art additionally does not disclose this limitation as well. Accordingly, Applicant respectfully requests allowance of claim 9.

Claim 33

The Examiner admits that Leivo does not disclose implementing a roll back function in the context of authentication as in the claimed invention. Contrary to the assertion made in the office action, there is also no discussion in Boylan that the rollback functions are used in the context of authentication as in the claimed invention. For example, the claimed invention recites that a request

data value in the authentication request indicates an amount by which to roll an instruction set associated with the transceiver. Boylan provides no such function. Thus, the claimed invention includes a limitation not recited by the prior art. Applicant respectfully requests allowance of claim 33.

Claim 35

For similar reasons as claim 33, the claimed invention includes a limitation not recited by the prior art. Applicant respectfully requests allowance of claim 35.

Claim 42

Claim 42 recites: "wherein applying authentication processing to request information within the authentication request in conjunction with the transceiver authentication credentials to produce an authentication response includes: based on information in the authentication request, identifying one of multiple authentication instructions maintained at the transceiver; and applying the identified one of multiple authentication instructions to a data value in the authentication request received from the control station to produce the authentication response."

The office action asserts that Leivo discloses such functionality without providing a specific indication of the corresponding passages that disclose each respective claim limitations. Applicant respectfully submits that Leivo at cited passage column 7, lines 6-25 and column 7, lines 25-54 do not disclose that information in an authentication request is used to identify one of multiple authentication instructions maintained at the transceiver. Nor do the passages recite applying an identified one of multiple authentication instructions to a data value in the authentication request received from the control station to produce the authentication response. Accordingly, Applicant respectfully submits that the rejection of claim 42 is improper.

Claim 43

Claim 43 recites: "wherein applying authentication processing to the request information includes: identifying an authentication instruction that matches a request authentication result received in the authentication request; and applying the authentication instruction that matches the request authentication result to a request data value in the authentication request to produce the authentication response."

The office action asserts that Leivo discloses such functionality without providing a specific indication of the corresponding passages that disclose each respective claim limitations. Applicant respectfully submits that Leivo at cited passage column 7, lines 6-25 does not disclose identifying an authentication instruction that matches a request authentication result received in the authentication request and applying the authentication instruction that matches the request authentication result to a request data value in the authentication request to produce the authentication response. Accordingly, Applicant respectfully submits that the rejection of claim 42 is improper.

New Claims 54-55

Applicant has added claims 54-55. Support for these claims can be found (among other places) in Fig 1-4 and corresponding text of the application. Each of these claims includes further patentable distinctions over the cited prior art. By virtue of dependency, these claims should be in condition for allowance as well. Thus, Applicants respectfully requests allowance of these new claims. These new claims should be allowable as well by virtue of dependency.

CONCLUSION

In view of the foregoing remarks, Applicants submit that the pending claims as well as newly added claims are in condition for allowance. A Notice to this affect is respectfully requested. If the Examiner believes, after reviewing this

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Response, that the pending claims are not in condition for allowance, the Examiner is respectfully requested to call the Applicant(s) Representative at the number below.

If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50-3735.

If the enclosed papers or fees are considered incomplete, the Patent Office is respectfully requested to contact the undersigned Attorney at (508) 616-9660, in Westborough, Massachusetts.

Respectfully submitted,

/PPK/

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